# FACTORS AFFECTING CONSUMER ACCEPTANCE OF MOBILE BANKING: THE CASE STUDY OF AKIBA COMMERCIAL BANK PLC

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENTOF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION OFTHE OPEN UNIVERSITY OF TANZANIA**

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## CERTIFICATION

The undersigned certifies that he has read and hereby recommends for acceptance by the Open University of Tanzania, a dissertation titled: ***"Factors Affecting Consumer Acceptance of Mobile Banking: A Case Study ofAkiba commercial Bank Plc.",*** in partial fulfilment of the requirements for the degree of Master of Business Administration of the Open University of Tanzania

…….....

Dr. Gwahula Raphael

(Supervisor)

……

Date

## COPYRIGHT

## DECLARATION

1,**Salim Issa Ngoyo**, do hereby declare that this dissertation is my own original work, and that it has not been presented and will not be presented to any other University for a similar or any other degree award.

……..

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Date

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## ABSTRACT

Technology has been one of the key driver among many business nowadays especially in financial sector, this has significant impacts to overall business performance. One of the innovation of technology in banking industry is Mobile banking service. However, the introduction of this new technology has not been well accepted by the end users who still prefer the old way of conducting financial transactions, therefore the aim of this study thought to investigate factors that affect consumer acceptance of mobile banking with specific reference to Akiba commercial bank, Tanzania. The study was directed by the following specific objectives: To identify factors of Mobile banking, to examine how demographic characteristics affect consumer acceptance of Mobile banking and to examine the relationship between consumer acceptance and mobile banking. This study employed a descriptive research method using structured questionnaires to collect data from respondents. The data collected was analyzed by use of frequencies and multiple linear regression technique, the findings were presented in terms of tables. The findings concluded that the following factors age, monthly income, perceived ease of use, mode of advertisements, compatibility and trust had a positive influence on the consumer acceptance of mobile banking while highest academic qualification, cost of using and gender had no influence on the consumer acceptance of mobile banking. The bank should strive to educate their customers on the available technological advances and how to use them. The researcher recommends that another study should be conducted on retail bank customers with a larger sample from the larger population that cut across the entire country of Tanzanian banking population.

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## LIST OF ABBREVIATIONS

| | |
|---|---|
| ACB | Akiba Commercial Bank Plc. |
| PDA | Personal Digital Assistant |
| ITBM | Initial Trust-building Model |
| TRA | Theory of reasoned action |
| TPB | Theory of planned behaviour |
| DTPB | Decomposed theory of planned behaviour model |
| TAM | Technology Acceptance Model |
| KCB | Kenya Commercial Bank |
| ICT | Information and Communication Technology |
| USA | United State of America |

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background to the Research Problem

Mobile banking is known as M-banking or SMS banking was started and announced during 1999, at the same year fundamo company deployed their first prototype and became the world's first largest mobile financial service provider in 2002 but the first major deployment was made by a company called Paybox which was largely funded by Deutsche Bank, Paybox company was founded by two young German's(Mathias Entemann and Eckart Ortwein the solution was later deployed by in other countries such as Austria, Sweden, Spain and UK and at about 2003 more than a million people were registered on Paybox and company was rated by Gartener as the leader in the field.

Later on many other large players in the field announced initiatives ran pilots but never showed traction and all initiatives were ultimately discontinued. Since 2004 mobile banking and payment industry has come of age, successful deployments with positive business cases and big strategic impact have been seen recently. In USA, mobile banking was introduced in 2006 by Wachovia bank and re-launched in March 2007 followed by others banks in collaboration with four major wireless carriers, which reported 500,000 users within the first 6 months since then there has been huge progress in mobile banking services. Other countries also adopted the technology but Japan and South Korea are the world leaders in adopting mobile banking technology. In Africa Kenya has been one of the greatest player in mobile

banking service provision in October 2010 safaricom and Barclays bank of Kenya signed a partnership this was the eighth bank after Family Bank and Kenya commercial bank. In February 2009, Zain launched ZAP M-banking service in east Africa allowing customers to send and receive money directly to their mobile handsets from banks anywhere in the world it targeted over 100 million people in Kenya, Tanzania and Uganda. These success stories of the penetration of mobile banking has led to the high contribution to the growth of the economy of each country in Africa. A part from the rapid growth there are still challenges that have been addressed in the technological innovation of mobile banking in the financial sector some are, handset operability since there are large number of different number of mobile phone devices some of these devices support Java ME and others support SIM Application Toolkit, a WAP browser, or only SMS.

The second one that has been addressed has a challenge is a Security issue since most of the financial transactions are being executed from some remote location and transmission of financial information is done over the air, these are the most complicated challenges that need to be addressed jointly by banks, wireless network providers and mobile application developers. Robust mobile banking infrastructures need to be established to handle exponential growth of the customer with mobile banking, customer may use the service any time anywhere at his/her convenience and hence banks need to ensure that the systems are up and running as a result customers will find mobile banking more and more useful, their expectations from the solution will increase but failing to do so banks will be unable to meet the customers' expectations (Ishengoma 2011).

Technology has been one of the key driver in most of commercial banks in Tanzania, each working hard to improve customer service for the purpose of keeping current customers and attracting prospective ones while at the same time paring operational cost. And in recent years innovative Technology has become an increasingly vital element in the competitive land scape of financial servicesegment as the rapid development of electronic banking services via.

Multiple electronic channels has made it possible to create new kinds of added value for customers(Coelho et al, 2003). Technological revolution has reshaped the relationship between banking service providers and consumers by offering several opportunity to both sides that is service consumption and cost reduction as customers have become less willing to visit additional branches, more receptive to new electronic channels and are sophisticated in demanding better service quality including 24-hour service availability (Suoranta, et al., 2005)Since technology offers great opportunity for commercial banks, Mobile banking has become one of the important part of the delivery channels nowadays and this can be witnessed, they aremore than 28 million number of Tanzanians mobile phones subscribers since 2012 in the country.

But so far in ACB commercial bank there are annually and monthly objectives that were set to monitor ACB mobile banking performance but till now the bank is hardly struggling to improve its performance by facing challenges associated with the technology issues and the service itself in its branches, Most of previous scholars did research on impacts and adoption of mobile banking while forgetting the other side of the setbacks or factors that affect mobile banking to be ineffective in the banking

industry today and the best ways to avoid or remove them entirely if possible. This research went further to cover that gape by finding out what issues should be taken into consideration and means to enhance performance.

## 1.2 Statement of the Research Problem

The Mobile banking service introduced by Akiba commercial Bank that is ACB Mobile with the aim to improve financial services offered by the bank should be able to meet both bank and customer expectationsby allowing customers to perform banking transactions such as requesting min-statements and checking balance almost anywhere at the comfort at their homes or offices. Integrated with Tigo pesa, Airtel Money and M-pesa clients through their mobile phones transact directly from and to their accounts, this mobile money ecosystems has also allowed customers to have access to over 30,000 agents countrywide these agents are key players during cash-in or cash-out outside our traditional banking hallsalso the system should be effective and sufficient in such a way there should be no many down timeswhile at the same time reducing cost and saving time and automatically the number of clients registered and active transactions would eventually go higher drastically and increase side income to the bank. However, with all those advantages and conveniences to customers that ACB Mobile service offers, but the service is still not performing well few number of customers registered utilize the service but the rest do not, moreover it has been noted that on average onlysmall number of registered customers transact with ACB Mobiledaily(Akiba commercial Bank Plc.). This indicates that there is a huge number of customers registered with ACB Mobile who do not transact, this has got significant impact to over roll performance as the bank has invested its time and

budget on it expecting good performance and at the same time meeting customer satisfactionsand in addition to that, there are still few studies that have been conducted here in Tanzania related to mobile banking as long as financial institutions are concerning. Therefore, following the foregoing discussion, there was need to examine the factors affecting consumer acceptance of mobile

## 1.3 Research Objectives

### 1.3.1 The General Objective

The general objective is to find out factors affecting consumer acceptanceof Mobile banking in commercial banks in Tanzania. A case study of Akiba Commercial bank.

### 1.3.2 Specific Objectives

The specific objectives are:

(i) To identifyfactors of Mobile banking

(ii) To examine how demographic characteristics affect consumer acceptance of Mobile banking

(iii) To examine the relationship between consumer acceptance and mobile banking

## 1.4 Research Questions

### 1.4.1 Specific Questions

Specific questions that will be answered by the above questions are:

(i) What are thefactors of consumer acceptance of Mobile Banking?

(ii) How do demographic characteristics affect consumer acceptance of Mobile Banking?

(iii) What is the relationship between consumer acceptance and mobile banking

## 1.5 Significance of the Study

Through the findings the study will bring possible solutions to the bank on how to improve the service especially in technical hitches in older to attract more customers to effectively utilize the service and which would in turn retain them.

To shed light to the bank on opportunities, strengths and weaknesses of the mobile banking service that is offering.The study Findings will help to improve customer satisfaction as the findings would provide possible and immediate solutions to the problems.The basis and findings of the study will provoke other scholars and researchers to conduct further studies here in Tanzania.

## 1.6 Scope of the Study

This study focuses on the theory of Diffusion of innovation and Technology acceptance modelwhere by in general they examine the acceptance of new technology. In banking industry, there are so many studies that have been conducted in various countries around the world about the acceptance of mobile banking services but there are few number of studies that have been conducted here in Tanzania. Therefore this study examines the factors that affect consumer acceptance of mobile banking.

## 1.7 Delimitations of the Study

The study meant to investigate factors that affect consumer acceptance of mobile banking as a strategic way to improve mobile banking service performance in the banking industry. Only Akiba commercial bank was considered as a case study. A

sample of 75 customers was used.The research aimed to study a population of 93 Akiba commercial bank branch customers.

## 1.8 Limitations of the Study

Time constraint was one of among major limitations of this study which was consisted of less than 10 months this was highly contributed by the fact that the researcher was a full time employee.Secondly this study employed cross-sectional research approach where by data was collected from respondents who were mostly bank customers at a single moment in time. Instead of Longitudinal research approach that would allow analysis of changes in response and response continuity of respondents over time,this would help to study the factors more deeply that affect consumer acceptance of mobile banking.

## 1.9 Organization of the Proposal

Chapter one consists a general overview of the problem area of the study and presents the context of the study and the research problem. The chapter also presents the objectives of the study the research questions and justification of the research. A literature review is given in chapter two. The chapter covers the most relevant theories and concepts of the study. Chapter three covers the research philosophy, overview of the research design and methodology research strategies, survey of the population and areas of the research. It also presents the sampling design and procedures, the variables and measurement procedures, Validity and Reliability. The chapter also presents the methods of data collection the way data will be processed and the way the analysis will be executed and the expected results of the study. And lastly, references followed by appendices.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1 Overview

This chapter covers and reviews various theoretical and empirical literatures on the issue of consumer acceptance of Mobile Banking in the banking sectors, and also it defines the key terms used in the study.

## 2.2 Conceptual Definitions

**Mobile Banking**: is the delivery channel whereby the customer interacts with a bank via a mobile device such as a mobile phone or personal digital assistant (PDA).

**Bank**:is a financial intermediary and money creator that creates money by lending money to borrower, thereby creating a corresponding deposit on the bank's balance sheet.

**Banking transaction**: is an agreement, communication or movement carried out between a bank and a customer.

**Financial services**:are the economic services provided by the finance industry, which encompasses a broad range of organizations that manage money, including credit unions, banks, credit card companies and insurance companies

## 2.3 Theoretical Literature Review

Since most of Banks nowadays look for new ways to improvefinancial services and the only way that has been seen to be most effective is the use of Technology and that is Mobile banking service this enables bank customers to carry out a host of banking transactions using their mobile phones More people now own a mobile

phone than a bank account arevolution in mobile phone is taking place, but Mobile banking is an innovation which is intangible service and innovative medium of service delivery employing high technology From this perspective, it is useful to examine research into technology and service in the banking industry(Suoranta, et al., 2005).

### 2.3.1 Diffusion of Innovation Theory

This theory was developed by Everett Rogers, a professor in communication studiesits first edition was published in 1962 and is now in its fifth edition.The main purpose of this theory is to investigate how and why a technology or an idea is diffused among different people and culture(Ghazizadeh,2012). Diffusion is the process by which a technology or an innovation is communicated through certain ways between the people in a social system over time(Rogers, 2003).In Diffusion Theory adopters are categorized into five groups on basis of innovativeness: innovators, early adopters, early majority, late majority, and laggards.

Innovators: These are people who want to be the first to try the innovation. They are venturesome and interested in new ideas. These people are very willing to take risks, and are often the first to develop new ideas. Very little, if anything, needs to be done to appeal to this populationEarly adopters: These are people who represent opinion leaders. They enjoy leadership roles, and embrace change opportunities. They are already aware of the need to change and so are very comfortable adopting new ideas. Strategies to appeal to this population include how-to manuals and information sheets on implementation. They do not need information to convince them to changeEarly majority: These people are rarely leaders, but they do adopt new ideas

before the average person. That said, they typically need to see evidence that the innovation works before they are willing to adopt it. Strategies to appeal to this population include success stories and evidence of the innovation's effectiveness.

Late Majority: These people are skeptical of change, and will only adopt an innovation after it has been tried by the majority. Strategies to appeal to this population include information on how many other people have tried the innovation and have adopted it successfully

Laggards: These people are bound by tradition and very conservative. They are very skeptical of change and are the hardest group to bring on board. Strategies to appeal to this population include statistics, fear appeals, and pressure from people in the other adopter groups.

But these groups are influenced by demographic information such as age, education, social status, income and gender. Those adopting mobile services now are innovators, early adopters and probably also early majority users according to the above categorization (Carlsson, et al 2005)furthermore,Adoption is also affected by Technological features which are relative advantage, compatibility, complexity and trial ability and observabilityRogers, E.M (1995),

According to (Robertson, 1967) some sociologists hold that ‘the average person is likely to be affected more strongly by social pressure, group associations, and the attitudes of opinion leaders he knows than by direct use of the mass media” this means that for mobile banking to be successful to receive wide acceptance in the

society the only way is to use opinions leaders these are early adopters of innovation according to Rogers to spread the news on the new service, from here we can hypothesize that “the more opinion leaders are informed about the service the more likely the Mobile Banking service will be accepted”

### 2.3.2 Technology Acceptance Model

TAM. was introduced by Fred Davis in 1986, this model is an adaptation of TRA specifically tailored for modeling user(Davis et al. 1989) he defined perceived usefulness as ‘the degree to which an individual believes that using the particular systems would enhance his or her performance”and perceived ease of use as ‘the degree to which a person believes that using a particular system would be free of effort”(Nayak et al. 2014)acceptance of information systems the primary goal of TAM is to provide an explanation of determinants of technology acceptance that is general TAM suggest that two particular beliefs, perceived usefulness and perceived ease of use, are of primary relevance for technology acceptance behavior

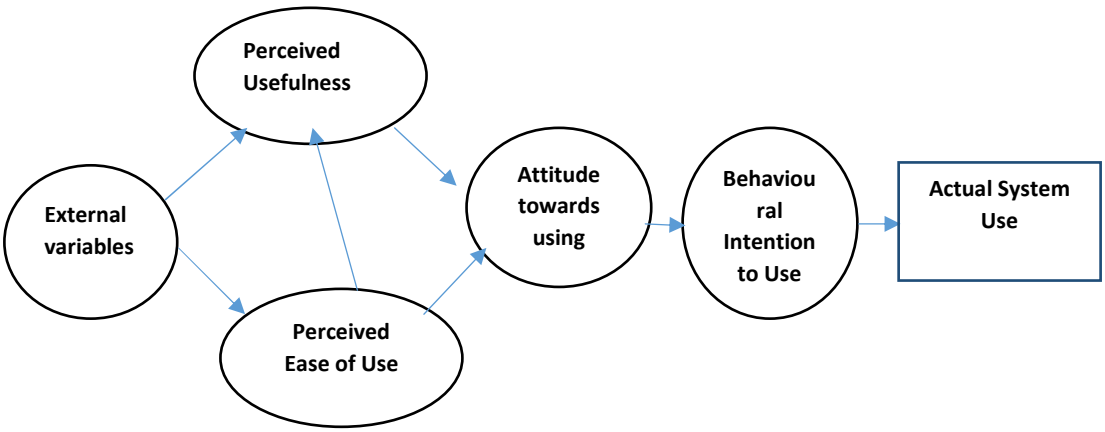


**Figure 2.1: Technology Acceptance Model Proposed by Fred Davis**

Field Data (2015)

Therefore based on the model the usage behavior of mobile banking as a technology much depends on two factors which are perceived usefulness of technology and the perceived ease of use of the technology, so these two together influence usage behaviors of the technology,from here two hypothesis can be obtained which are 'the more perceived usefulness of the technology (mobile banking) the more likely the new technology will be accepted/adopted" and the second one is" the more perceived ease of use the technology(mobile banking)is, the more likely it will be adopted/accepted.

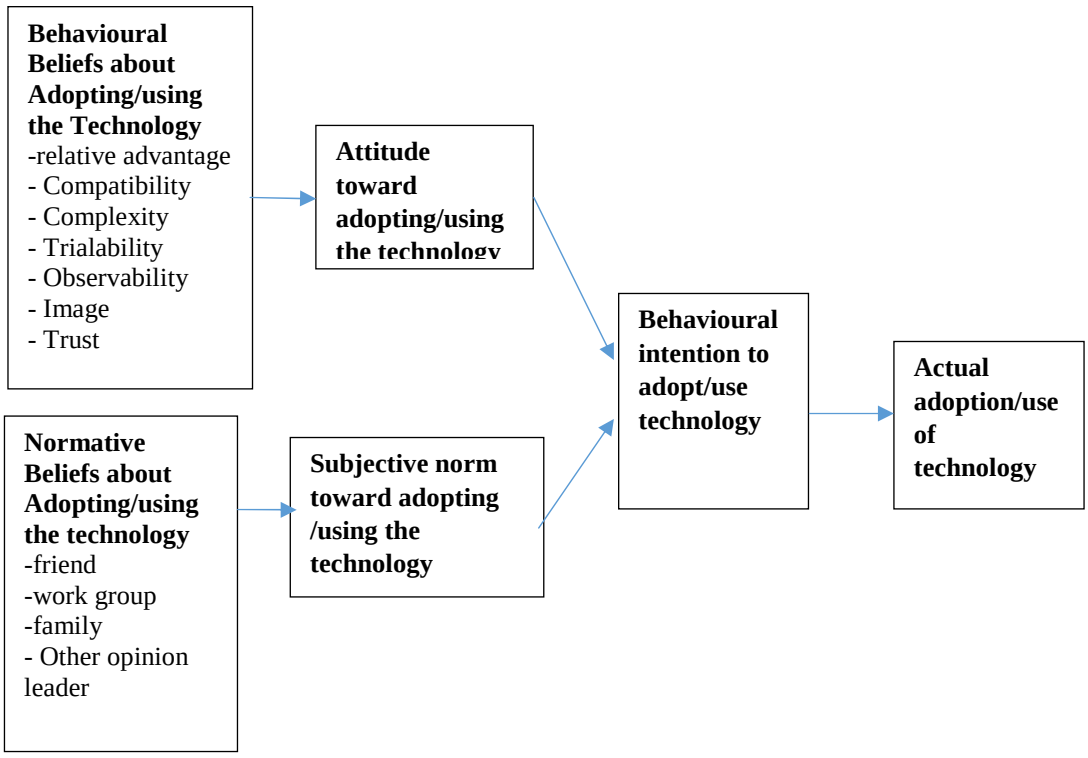


**Figure 2.2: General Model of Technology Acceptance**

Field Data (2015)

Theory of Planned Behavior posits that actual, voluntary use of a technology is determined by the individual's behavioral intention, which, in turn, is determined by the individual's attitude towards using the technology and subjective norms present

in the individual's social environment. In recent years Rogers's theory has been combined with Theory of Planned Behavior to form Theory of Technology acceptance, and additional factors to be considered along with Rogers's basic five, especially image and trust (Barnes, 2003).

The General model of technology acceptance provides a framework for analyzing the potential of Mobile banking service by assessing the attitudes and subjective norms associated with the usage of technology this provides a good picture on how likely innovation of mobile banking can diffuse in different markets.

Behavior intention to adopt or use technology is determined by the attitude toward adopting the technology and the subjective norm toward adopting the technology.The attitude toward using the technology can be influenced by behavioral beliefs such as relative advantage, compatibility, complexity, trial ability, observability, image and trust while subjective norm toward using the technology is influenced by normal beliefs about using the technology such as friends, work group, family and other opinion leaders (Barnes, et al. 2003).

Relative advantage refers to the degree to which an innovation provides benefits which supersedes those of its precursor and may incorporate factors such as economic benefits, images, enhancement, convenience and satisfaction (Rogers, 1983), this means that the more advantageous the service is the more is going to get wide acceptance. Therefore it can be hypothesized that "the more relative advantageous of mobile banking is the more it will be accepted"

Complexity, this is the degree to which an innovation is perceived to be difficult to understand, learn or operate (Rogers, 1983). This can be observed by the underline technological infrastructure and usability of mobile banking services. That is, if the service is more complex it is less likely to be accepted and if the service is less complex it is more likely to receive wide acceptance from the community it serves. Then it can be hypothesized that “the less complex the mobile banking service is the wider acceptance it will receive”

Compatibility is the degree to which the innovations fits with the potential adopters existing values, previous experience and adopter’s existing values, previous experience and current needs(Rogers, 1983) It is said that compatibility is the strong indicator of the user attitude towards Mobile banking service and moreover research on business information system services reveals financial transaction need gaps which have not been fulfilled by the traditional channels used by financial institution (Mazhar, et al. 2014).

In Tanzania most ofpeople use mobile banking services provided by telecommunication companies examples of those services are M-pesa, tigo-pesa and airtel money this shows that with this experience Mobile banking service from banks can get wider acceptance in the society where the bank operates and on top of that it can be hypothesized that “the more compatible the mobile banking service is the more likely to be accepted”.

Trialability this is an opportunity to experiment with the innovation on limited basis, where by potential adopters who are allowed to experiment with an innovation will

feel more comfortable with it and more likely to adopt it (Rogers, 1995). Moreover, most market research that have been conducted in developed countries show that most of customers are unwilling to pay for mobile services they already received free through another channel the only solution is to encourage users to try mobile banking to demonstrate its value proposition where observability could not be demonstrated from that the hypothesis will be “the greater the trialability of mobile banking services the more likely that mobile banking will be accepted”(**B**arnes, et al. 2003.).

Observability of an innovation is the extent to which an innovation is visible to other members of a social system, and how easily the benefits can be observed and communicated (Suoranta, 2003), Observability can be enhanced through individuals witnessing others using mobile banking since usage of mobile phones mostly happen out in the open (**B**arnes, et al. 2003.) therefore this can be said that ‘’the greater the observability the most likely the mobile banking service will be accepted”

### 2.3.3 Trust

Trust, the degree to which a person believes that others will live up to his expectations and will not take undue of the situation, is one of the most frequently discussed external factor that hinders adoption of technology(Mazhar, et al. 2014), moreover Mobile banking service is becoming popular nowadays because of its advantages that it offers, although the conditions for the use of the service appear to be favorable, market analysis shows that customers are reluctant to use their mobile phones to access them( Kim et al 2007) it is because they feel unsecure, in order to avoid it according to (Nayak et al. 2014) if customers believe that the bank can be

able to provide Mobile banking services that have adequate protection from fraud and violation of privacy then adoption intention of mobile phone users will increase. This leads to the hypothesis that “The more trustworthy the mobile banking service is the more likely mobile banking will be adopted”

## 2.4 Empirical Literature Review

### 2.4.1 General Studies

Suoranta (2003) carried out a study on Adoption of Mobile banking in Finland, mainly examining an innovation in financial services industry particularly mobile banking services. The objective of the study was to determine and explain the factors affecting the adoption of mobile banking services and focuses mainly on consumer behavior patterns. Theoretically the study based on traditional theories of innovation diffusion and adoption and on the literature relating to electronic banking and technology-based services.

Methodologically, descriptive approach was used and the empirical data were collected by means of a questionnaire mailed to banking customers(1253 responses received) and as a result of analysis of the empirical data revealed that certain attributes of mobile banking innovation explain consumer behavior, relative advantage, compatibility, communication and trialability. And on the other sides complexity and risk of using mobile banking provided no support as being barriers to adoption.

Moreover, Suoranta suggested that the technology perceptions and certain demographics variables of the customers have a significant impact on the adoption

behavior.The other study was conducted by Jammoul (2012). It was about the factors affect the success of mobile banking the role of trust. Jammoul argued that trust is considered as a key factor in determining the customers' intention to use mobile banking service and many studies have been conducted to assess the factors affect trust with mobile applications, none has focused on the ways in which the system and non-system factors affect consumers' trust in mobile banking and its usage, for that reason the study developed a research model to examine the effect of system and non-system factors on initial trust on mobile banking and its usage intention.

The objective of the study was to understand the factors affect initial trust in Mobile Banking from the perspective of the consumers, and to identify the factors that can predict their usage intention.Those factors are trust propensity, structural assurances, relative benefits, firm reputation, system quality, computer self-efficacy, social influence and age. Theoretically, the study based oninitial trust-building model(ITBM) developed by Kim et al, the theory of reasoned action (TRA)and theory of planned behavior(TPB).

Kazemi et al (2013) conducted the study on factors affecting isfahanian mobile banking adoption based on the decomposed theory of planned behavior. The main objective was to investigate the factors that influence Isfahanian' intention to adopt mobile banking by extending the renowned framework of decomposed theory of planned behavior model (DTPB) by additionally examining the effects of trust and perceived risk as components of attitudes on behavioral intention. Descriptive survey research approach was used and was conducted on the population whose people had mobile phones and with a bank account in Isfahan city.And a self-administered

questionnaire was developed and distributed in Isfahan city. The sample of about 310 respondents was used for analysis the software was used to analyze data was AMOS software.

The result of the study analysis revealed that the decisive or crucial factors influencing mobile banking adoption are attitude and perceived behavior control, however, social norms were the only factor found insignificant.Hossein et al (2015) conducted the study on Effective factors of the adoption of mobile banking services by customers in Saderat Bank by using the technology acceptance theory, Diffusion of innovation theory and also advice from national banking specialists. They divided the effective factors of the adoption of mobile banking services to the two parts which are mobile banking technology characteristic and demographic characteristic, where mobile banking technology characteristic includes perceptions of mobile banking, ease of use, usefulness, cost, risk, compatibility with their lifestyle, and their need for interaction with personnel.

Also demographic characteristic includes cover gender, age, marital status, the level of education, and the early income. A descriptive –field study methodology was used where by 666 people were taken as a sample where 350 people were mobile banking services users and 316 people not using the Saderat Bank services. In analysis, the study revealed that among different mobile banking technology characteristics, the compatibility variables, the cost of using, trialability and profitability were ranked by customers as effective factors of using the mobile banking services. Moreover, factors such as ease of use , risk, and need for interaction and marital statuswere not

important for using mobile banking services from the customer's' perspective while gender factor was effective factor among demographic characteristic.

### 2.4.2 Studies in African Countries

Cudjoe et al(2015) from Africa carried out a research on the determinants of mobile Banking Adoption in the Ghanaian Banking Industry among bank customers with emphasis on Access Bank Ghana. The main objective of the study was to examine the determinants of mobile banking in Access bank Ghana. They argued that much research had focus on developed countries and generated many models and theories which are believed to affect the adoption of an innovation, such studies are very few in developing countries such as Ghana. The study used these theories: Innovation Diffusion theory, technology Acceptance model (TAM) and Theory of reasoned action(TRA). Explanatory and a cross-sectional study were adopted where by explanatory research was to establish relationship that exists between variables, how one variable affect the other and also to explain the cause or effect of one or more variables. A cross-sectional approach was used to only focus on a particular phenomenon at a specific period of time as opposed to longitudinal research which focuses on the phenomenon successive time interval, moreover, structured questionnaire as a primary data collection instrument was adopted to gather information. Data analysis was done qualitatively and the results revealed that, perceived credibility and perceived financial cost were the major setback with regards to customers adoption of mobile banking services provided by access Bank, and as a result of this, Ghanaians have formed a negative behavioral patterns towards mobile banking. And also perceived credibility and perceived financial cost have a

stronger effect on consumer intention to adopt and user mobile banking service than perceived usefulness and perceived ease of use. For that reason they suggested that for the Ghanaian banks to create and develop quality initiatives and build customer confidence on the service, they should first create more awareness through personal interaction with customers

Another study from (Geoffrey, 2012) in Nairobi, researched about factors influencing mobile banking in Kenya with a case study of Kenya commercial bank. The main purpose of the study was to establish factors influencing mobile banking in Kenya. The study focused mainly on the influence of education, age of the respondents, cost of service and security concerns on mobile banking KCB and those were the objectives of the study. Methodologically, descriptive survey was adopted to carry on the study.

It aimed at collecting information from the respondent in relation to their access to Mobile Banking services in KCB, the research was conducted using purely quantitative method and also questionnaires were used to gather data using cluster sampling technique.SPSS was used in analysis part where by data were presented using frequency tables, through analysis the study revealed that: Education and Age both together did not influence mobile banking this is because every person in the selected sample owned a phone, operated a bank account and had subscribed to mobile banking, however, skills seemed to have an influence on operating a mobile banking platform effectively. Cost of mobile banking was not too high but some feel the cost was high. Security concerns, it turned out that security was a serious issue as respondents said there were losses due to fraudulent access of customer’s account

due to hacking, therefore banks should deploy disciplined, qualified and well remunerated ICT at the concern of Mobile banking.

**Table 2.1: Summary of Most Relevant Previous Studies on Mobile Banking**

| Factors | Country | Methodology | Findings | Authors |
|---|---|---|---|---|
| Relative advantage, compatibility, communication and triability, complexity, perceived risk, demographics and obervability. | Finland | Descriptive approach | Relative advantage, complexity, compatibility, triability, technology perceptions and demographic(age and education) have positive influence on adoption of electronic banking while risk has no influence. | Suoranta, 2003 |
| Perceived usefulness, compatibility, perceived ease of use, trust, perceived risk, interpersonal influence, self-efficacy, facilitating conditions, attitudes and subjective norms | Iran | Descriptive survey | Attitude and perceived behavior control influence mobile banking while social norms were found insignificants | Katemietal, 2013 |
| Ease of use, usefulness, cost and risk of mobile banking technology, compatibility, need for interaction with personnel and demographic characteristics (gender, age, merital status, level of education, income) | Kuwait | Descriptive Methodology | Compatibility, cost, triability, profitability were effective factors where by ease of use, risk, and need for interaction and marital status were not important but gender factor was effective factor | Hossein et al, 2015 |
| Perceived financial cost, perceived credibility, perceived usefulness and perceived ease of use | Ghana | Cross-sectional approach | Perceived credibility, perceived financial cost were major setback to customer adoption of m-banking than perceived usefulness and perceived ease of use. | Cudjoe et al, 2015 |
| Education, age, cost of service and security | Kenya | Descriptive survey -cluster sampling technique | Education and age both did not influence m-banking, security was a serious issue influence m-banking while cost of service was felt to be so high. | Geoffrey, 2012 |

Source: Field Data (2015)

## 2.5 Research Gap

Mobile banking service is becoming more popular in financial system by finding its way to financial institutions especially banking institutions, and most research studies have been conducted on consumer adoption of mobile banking and mainly based on behavioral patterns and technological factors portrayed by Rogers but still there are a few empirical studies that have been conducted in banking institutions on mobile banking services in developing countries especially Tanzania, Moreover, most of which focused entirely on the matter as a whole and were not being specific therefore this study focused only on factors that affect current registered consumers on the acceptance of mobile banking service in the continuation use of mobile banking.

## 2.6 Conceptual and Theoretical Frameworks

Based on the theoretical review and the large body of empirical studies discussed above hypotheses were formulated and the framework for the study was established Figure 2.3. The framework is derived from Empirical studies and the work of (Rogers, 1995) which comprises of innovation attributes from the theory of Diffusion of innovation which are relative advantage, complexity, compatibility, triability, observabilitywhich define the perceived characteristics of an innovation together with other variables image and trust of Fishbein's and Ajzen's theory of planned behavior (TPB) combined to form general theory of technology acceptance, also these variables seem to be affected by demographic variables as illustrated below. The arrows indicate the influencing effect on adoption or continuation of the usage of mobile banking service.

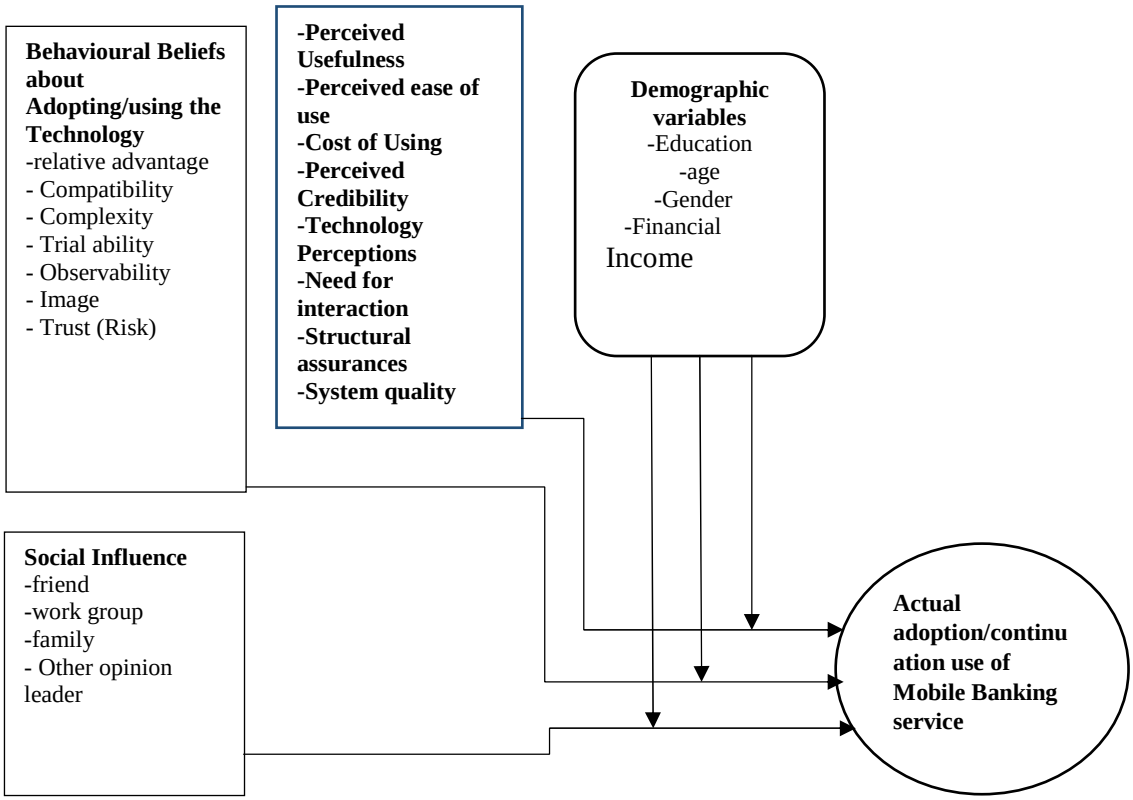


**Figure 2.3: The Conceptual Framework**

Field Data (2015)

# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.1 Overview

This chapter presents research philosophy and the overall design of the research methodology includingresearch approach, area of the research proposed, sample size, sampling design and procedures, variables and measurement procedures, validity and reliability, methods of data collection that is going to be used to collect relevant information to the study and data processing and analysis.

## 3.2 Research Philosophy

In order to recognize which methodological approaches are appropriate and applicable to the investigation under study it is very important to put into consideration some understanding of the philosophical approaches. The whole area involves debates on underlying philosophies such as ontology and epistemology as the top main research philosophical classifications, ontology is concerned with nature of reality which have two aspects objectivism and subjectivism while epistemology is concerned with what constitutes acceptable knowledge in a field of study, and has two aspects positivism and interpretivism, positivism is a believe that reality is stable and can be observed and described from an objective viewpoint(Levin, 1988) this often involves manipulation of reality with variations in only a single independence variable to identify regularities and to form relationships between some of the constituent elements of the social world while interpretivism advocates that it is necessary for the researcher to understand differences between

humans in our role as social actors(Saunders et al. 2009). But according to this study positivism approach was adopted since positivism depends on quantifiable observations and is subjected to statistical analysis, it was noted also that the researcher is independent from the study, the study is purely objective and there are no provisions for human interests within the study

And data collection techniques most often used are highly structured, large samples and can use both quantitative and qualitative approaches. It offers several advantages such as economical collection of a large amount of data, clear theoretical focus for the research from outset, greater opportunity for the research to retain control of the research process and easiness of the research process

### 3.3 Research Design

The study employed descriptive research as an approach to research design, this was adopted for the following reasons, descriptive research approach is the one that is used to identify and explain the variables that exist in a given situation, and to describe the relationship that exists between these variables at a given point, It makes use of a large sample to describe the characteristics of a large population. It is used to study the characteristics between variables of a certain groups to form a clear picture of the phenomena. In this research cross-sectional design was used instead of longitudinal design in time horizon. A cross-sectional is the study of a particular phenomenon (or phenomena) or is just a snapshot taken at a particular time and Longitudinal design is the one that examine the variables over a period of time(Saunders et al. 2009)and because this study was undertaken for academic course then time was limited, therefore a cross-sectional study was adopted. There

are two strategies in descriptive research that can be used which are survey strategy and case studies but a survey strategy was selected for this study. A survey method is the one that is most suited for gathering descriptive information because it allows the collection of a large amount of data from a sizeable population in a highly economical way and data are collected using questionnaire administered to a sample (Saunders et al. 2009), and it offers some advantages such as,can be used to collect many different kinds of information from a large sample size and also it is quick and cost effective compared to other strategies(Kothari 2004).

### 3.4 Area of the Research

The study was conducted within Dar es Salaam region. The choice was influenced by the presence of a large number of bank branches within the region and also providethe easiness to reach respondents. The study used an approach of surveying only customers of the bank who wereaccount holders within the bank and already registered to mobile banking service called ACB mobile. Non registered customers were also included to identify barriers in consumer acceptance of mobile banking. The research included all customers including those who were registered and non-registered customers to ACB mobile banking service, however, primary target was ACB mobile registered customers.

### 3.5 Population of the Research

The population of the study was account holders of Akiba commercial Bank, they were mainly retail customers who had mobile phones, and had operated with the bank for sometimes, these included businessmen, employees, students and ACB staffs.

### 3.5 Sampling Design and Procedures

The study employed sampling method which was a simple random sampling. The choice was influenced by the reason that the method is the simplest and easy to conduct, the budget constraints prevented the study from surveying the entire population, and time constraints also prevented the study from surveying the entire population. Random sampling method generates findings that are representative of the whole population at a lower cost than collecting the data for the whole population. This method reduces the amount of data that are collected by considering only data from a sub-group rather than all possible cases or elements and this offers(Saunders et al. 2009)

Any customer who walked into the banking hall from morning to evening during working hours was given a questionnaire to fill, from that the sample size was selected from the entire population and determined the proportion of the targeted population. The survey involved 75 respondents randomly selected, 20 of which were ACB staffs. The true sample size was calculated from the population $=$

$$n = \frac{z^2 \times d(1-d)}{E^2} = \frac{1.96^2 \times 0.5(1-0.5)}{0.05^2}$$

$$n = 384.$$

Where by n= number of samples

Z= Zscore at 95% Confidence level

d= Standard deviation

E= Margin of error

$$TrueSample = \frac{Samplesize \times Population}{Samplesize \times Population - 1}$$

$$TrueSample = \frac{384.16 \times 93}{384.16 + 93 - 1} = 75.03125 = 75$$

### 3.6 Variables and Measurement Procedures

To accomplish the objectives of the study to come up with correct outcomes triangulation method was used to indicate that two or more methods are used in a study to check the results for validity, quality and reliability where by primary data was used from primary sources.

**Table 3.1: Factors and their Corresponding Measurements**

| **Questions** | **Factors** | **Measurements** |
|---|---|---|
| Age | Age | Age in years |
| Gender | Gender | Number of males and Females |
| Highest Academic qualification | Highest Academic qualification | Number of people with various categories of formal education |
| Monthly income | Monthly income | Monthly income |
| In my view the use of technology is useful for banking activities.<br>I believe that the services provided by banks are of good quality. | Technology perceptions & | Likert Scale |
| Fear of theft through fraud, hacking of my password and minimal security control of ACB mobile services affects my use of it | Trust | Likert Scale |
| In my opinion the use of ACB mobile services are economical.<br>I think transaction fee is expensive to use | Cost of using | Likert Scale |
| I heard / saw others using ACB mobile that is why I decided to use it.<br>It will be easy for me to use ACB mobile services since I know how to use ATM | Observability | Likert Scale |
| Using mobile banking makes/would make it easier for me to conduct ACB mobile transactions.<br>ACB mobile is/would be a convenient way to manage my finances | Perceived usefulness & relative advantage | Likert Scale |
| Overall, I find/would find ACB mobile easy to use | Perceived ease use | Likert Scale |

The primary data collection method that was used during the study included mainly structured and standardized questionnaires, interviews and participant observations. Based on conceptual and theoretical frameworks the following variables were used to collect data and information: demographic variables (age, gender, education level and financial income), attributes of innovation (relative advantage, compatibility, trial ability, complexity, observability, trust and image), normative beliefs (friends, work group, family and opinion leaders. Where by attributes of innovation and normative beliefs are independent variables, while demographic variables are moderating variables and adoption or continuation of mobile banking is dependent variable.

### 3.7 Validity and Reliability

The validity and Reliability of instruments refers to the quality that a procedure or instruments (tool) of a research is accurate, correct, true, meaningfully and right(Ishengoma 2011).In this study Validity will be measured using content validity and construct validity, where by content validity is a non-statistical type of validity that involves the systematic examination of the survey content to determine whether it covers a representative sample of the behavior domain to be measured, therefore, the opinions of experts and reviewed literature that identifies the different aspects or dimensions of the concept was solicited while construct validity is the one that used to establish by showing that a measure is related to a variety of other measures as specified in a theory where by factor analysis and correlational statistics can be used to test. And Reliability was measured using internal consistency with the help of Cronbach's alpha value it assisted to establish the extent of relationship between

various items in the questionnaire and also check the internal consistency of our scale in order to recognize problem items in the scale and to calculate overall index of the repeatability preset in the scale(Razzaq 2014).

Cronbach's alpha reliability coefficient normally ranges between 0 and 1. The closer the coefficient is to 1.0, the greater is the internal consistency of the items (variables) in the scale from the table 3.2 below Cronbach’s alpha value was 0.709 which indicates internal consistency of the items was normal as required also Cronbach's alpha coefficient increases either as the number of items (variables) increases, or as the average inter-item correlations increase

**Table 3.2: Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .709 | .804 | 9 |

### 3.8 Methods of Data Collection

Data were gathered from both primary and secondary sources. Primary data were collected from ACB branches during working hours.Secondary data were used to pave a way to construct questionnaires for primary data collection. Secondary data were collected from published and unpublished sources available in the library and the internet including journals, research reports, and conference proceedings. Primary data come from original sources that were collected from branches by using structured and standardized questionnaires, these questionnaires were used to provide a sample size for the study by using a sampling method.

### 3.9 Data Processing and Analysis

Data processing was done to prepare collected raw data for smooth analysis this included data cleaning, data coding, and reverse coding. Data cleaning this was done by examining the collected data to be in a position to identify omissions and errors and finding a way to rectify it where possible. This was done to ensure that data hadquality and standard needed to go for the next stage. This process checks also if the returned questionnaires' data contained therein are accurate and consistent with other facts gathered, uniformly entered and well arranged to facilitate coding and data analysis. Secondly data coding was processed by assigning numerals or other symbols to classes into which responses were placed. After data coding had completed data were entered into the computer and the tool that was used to assist data analysis was SPSS, data were entered into the software tool with considerable care to ensure that data were entered correctly to avoid errors. The regression analysis technique wasused to determine the relationship of the tested hypothesis under the study to arrive at the outcome predicted, regression analysis is also used to understand which among the independent variables are related to the dependent variable, and to explore the forms of these relationships, this technique was used because testing was done on dependent and independent variables to test for the relationship between variables and to meet requirements for predictive testing. The regression analysis can also be used to predict values of a dependent variable given the values of one or more independent variables by using a regression equation that is $y = \alpha + \beta_1 c + \beta_2 d + \beta_3 e + \cdots \ldots \ldots$ Where by $y$ stands for dependent variable (intention to use mobile banking),$\beta_1$, $\beta_2$and $\beta_3$ are the beta coefficientsand c, d and e are the independent variables(relative advantage, compatibility and perceived ease of

use, just to mention a few). Assumptions made under this regression analysis equation according to (Saunders et al. 2009); are the relationship between dependent and independent variables is linear, the extent to which the data values for the dependent and independent variables have equal variances also known as homoscedasticity, absence of correlation between two or more independent variables such as collinearity and multicollinearity and the data for the independent variables and dependent variable are normally distributed. And finally data interpretation was done to arrive at hypothetical analysis and causal relations of the variables.

# CHAPTER FOUR

# RESEARCH FINDINGS AND NALYSIS

## 4.1 Overview

This chapter presents findings and analysis of the research as set out in the research methodology. The results of the findings were presented in texts, tables and figures. Descriptive statistics are first presented with a view to profile the respondent's data. Then results of the inferential statistics focusing on regression and model diagnostics tests were carried out using SPSS.

The researcher provided a total of 110 questionnaires to bank customers who were registered and those who were not registered to ACB Mobile banking service. 20 questionnaires were distributed to ACB staffs who had registered to use ACB mobile banking, the researcher was able to collect 93 responses. Data were collected and discussed to answer three research questions, Specifically, all the questions focused mainly on the factors affecting consumer acceptance of mobile banking at akiba commercial bank plc.

## 4.2 Adopters and Non-Adopters of Mobile Banking

The second part of the questionnaire required the respondents to indicate whether If they had ACB mobile banking account or not and if they had not they should give reasons why, the primary goal of this question was to understand the average number of adopters and non-adopters of mobile banking, and the reasons why non-adopters had not signed up for it.

**Table 4.1: Adopters and Non-adopters of Mobile Banking Service**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | I'm not aware of the service | 6 | 8.0 | 19.4 | 19.4 |
| | I'm scared of fraud | 5 | 6.7 | 16.1 | 35.5 |
| | I don't know how to set it up | 6 | 8.0 | 19.4 | 54.8 |
| | I like to deal with a real person when i do | 4 | 5.3 | 12.9 | 67.7 |
| | The bank has many conditions | 10 | 13.3 | 32.3 | 100.0 |
| | Total | 31 | 41.3 | 100.0 | |
| Missing | 99 | 44 | 58.7 | | |
| **Total** | | **75** | **100.0** | | |

Source Field Data (2015)

From the Table4.1the missing value 99 indicates the number of respondents who did not answer the question with the main reason that they had already signed up for ACB mobile banking service and were using it, but the ones who answered the question were the non-adopters who had not signed up to use the service. Therefore 44(58.7%) indicate that the number of respondents who had registered for the service and were using it while the rest that is 31(41.3%) of respondents had not registered for mobile banking service. Out of 31(41.3%) respondents only 10(13.3%) of respondents said that the reason for not having signed up for it was that the bank has many conditions, 4(5.3%) of respondents said they liked to deal with a real person when they did, 6(8%) of respondents said they did not know how to set it up, 5(6.7%) of respondents said they were scared of fraud and 6(8%) of respondents said that they were not aware of the service.

## 4.3 Age Distribution of Respondents

**Table 4.2: Age Distribution**

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Below 25 years | 3 | 4.0 | 4.0 | 4.0 |
| 25 - 30 years | 28 | 37.3 | 37.3 | 41.3 |
| 31 - 35 years | 27 | 36.0 | 36.0 | 77.3 |
| 36 - 40 years | 11 | 14.7 | 14.7 | 92.0 |
| 41 - 45 years | 5 | 6.7 | 6.7 | 98.7 |
| 46 years and above | 1 | 1.3 | 1.3 | 100.0 |
| **Total** | **75** | **100.0** | **100.0** | |

Source Field Data (2015)

As reflected in Table 4.2basing on the 75 respondents, it was identified that the majority of ACB mobile users were of the age 25 – 30 years followed by users at the age of 31 – 35 years that means most of users of ACB mobile are young people. This accounted for about 28(37.3%) that is the majority group while the minority group were the older ones 46 years and above that accounted for 1(1.3%). This explains that ACB mobile users who were older were few since the number of registered mobile users turned out to be higher compared to those who were not registered refer Table 4.1.

## 4.4 Education level of Mobile users

Referring to theTable 4.3below education level of the participants most of them were made up of Bachelor's Degree (45%) followed by Primary education (21%) and secondary education (10%) also comprised those with Diploma and masters' degree.This showed that most of respondents were educated to the level of a bachelors' degree as the number of users with that level was higher compared to

others, therefore education level seems to have an effect on the use of mobile banking technologysince the number of registered mobile users turned out to be higher compared to those who were not registered refer Table 4.1.The educated customers found it easy to use the technology provided that they were able to comprehend on how to go about the use of new technology.

**Table 4.3: Highest Academic Qualification**

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Primary | 16 | 21.3 | 21.3 | 21.3 |
| Secondary | 10 | 13.3 | 13.3 | 34.7 |
| Diploma | 8 | 10.7 | 10.7 | 45.3 |
| Bachelor's Degree | 34 | 45.3 | 45.3 | 90.7 |
| Master's degree | 7 | 9.3 | 9.3 | 100.0 |
| **Total** | **75** | **100.0** | **100.0** | |

Source Field Data (2015)

## 4.5 Gender

Akiba commercial bank Plc. as a bank has both female and male customers

**Table 4.4: Gender Information**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Male | 62 | 82.7 | 82.7 | 82.7 |
| | Female | 13 | 17.3 | 17.3 | 100.0 |
| | **Total** | **75** | **100.0** | **100.0** | |

Source Field Data (2015)

From table 4.4 the researcher discovered that the majority ACB mobile users were male according to the sample collected for about 82.7% users were male and 17.3%

were Female that means most users of ACB mobile were Male as the number of registered mobile users turned out to be higher compared to those who were not registered refer Table 4.1.

### 4.6 Monthly Income

**Table 4.5: Monthly Income of the Respondents**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Less than 200,000 | 3 | 4.0 | 4.0 | 4.0 |
| | 400,000 - 450,000 | 8 | 10.7 | 10.7 | 14.7 |
| | 450,000 - 500,000 | 15 | 20.0 | 20.0 | 34.7 |
| | 500,000 and above | 49 | 65.3 | 65.3 | 100.0 |
| | **Total** | **75** | **100.0** | **100.0** | |

Source Field Data (2015)

The study discovered that mostof the respondents had monthly income of more than 500,000/= that is 49(65.3%) followed by earners of 450,000 - 500,000/= monthly income and the minority had Less than 200,000/= monthly income that is 4%. And some fell on this category 400,000 – 450,000 that is 8(10.7%).

### 4.7 Respondents Opinion on Complexity of Mobile Banking Technology Usage

**Table 4.6: Banking Complexity**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Disagree | 10 | 24.0 | 24.0 | 24.0 |
| | Disagree | 30 | 40.0 | 40.0 | 64.0 |
| | Agree | 18 | 24.0 | 24.0 | 88.7 |
| | Strongly Agree | 9 | 12.0 | 12.0 | 100.0 |
| | **Total** | **75** | **100.0** | **100.0** | |

Source Field Data (2015)

As to whether it is complicated and difficult to use mobile banking technology, there was clear majority for those who disagree with the question. About 64% of respondents said it was easy and neither complicated nor difficult to use. About 36% said it was complicated and difficult to use the service. It was noted that most of users didn't see it as a problem because they had experience with SMS based services such as tigopesa, mpesa, and airtel money

### 4.8 Suggestions by Customers

This part of the questionnaire of the study wanted to find out about the requirements by clients regarding mobile banking service, what they value the most to be included in mobile banking service.

**Table 4.7: Mobile Banking Services**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Loan application | 10 | 13.3 | 13.3 | 13.3 |
| | Automated SMS alert about transactions | 28 | 37.3 | 37.3 | 50.7 |
| | Bill payment option | 10 | 13.3 | 13.3 | 64.0 |
| | Trade Finance options | 5 | 6.7 | 6.7 | 70.7 |
| | Automated SMS alert about loans | 19 | 25.3 | 25.3 | 96.0 |
| | Other | 3 | 4.0 | 4.0 | 100.0 |
| | Total | 75 | 100.0 | 100.0 | |

Source Field Data (2015)

According to the research findings, 28(37.3%) of the respondents wanted "Automated SMS alert about transactions" service to be included in mobile banking,

19(25.3%) of the respondents preferred automated SMS alert but specifically about loans, 10(13.3%) of the respondents wanted to access Loan application using ACB mobile, another 10(13.3%) of the respondents said they like to see bill payment option as one of the service in ACB mobile, 5(6.7%) of the respondents liked to have Trade finance options in ACB mobile and the minority of the responded clients suggested other options that is 3(4%) apart from the listed ones which are to repay loans via ACB mobile and also to get all listed options at any time they want. Therefore most of the respondents suggested that there should be automated SMS alert about transactions and loans included in the ACB mobile service.

## 4.8 Regression Analysis and Diagnostic Tests

In addition to the above analysis the study included regression analysis to test the relationships between the dependent variable (Adoption/continuation of mobile banking) and the independent variables (Gender, cost of using, Monthly income, Mode of advertisements, compatibility, perceived ease of use, trust, age and highest academic qualification) The study applied the SPSS software to compute measurements of the multiple regression for the study.

**Table 4.8: Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change | |
| 1 | .736[a] | .542 | .443 | .470 | .542 | 5.514 | 9 | 42 | .000 | 1.914 |

Source Field Data (2015)

The model is statistically significant since the values under the column Sig. F Change in Table 4.8 is 0.00, the R-squared is 0.542 meaning that approximately

54.2% of the variance of dependent variable is accounted for by the model. That is, the coefficients for each of the variables indicates the amount of change one could expect in dependent variable given a one-unit change in the value of that variable, given that all other variables in the model are held constant.The regression results were generally acceptable, however to ensure that the assumptions of the linear model were not violated diagnostics tests were carried out as follows together with regression analysis

### 4.9 Multiple Linear Regression analysis and Testing for Multicollinearity

There are other ways to detect Multicollinearity problems but in this study variance inflation factors (*VIF*) was used and is used at the time multiple linear regression analysis is being used. Multicollinearity happens when the explanatory variables are much correlated with each other. Based on SPPS software the following coefficients table was produced.

One way to measure multicollinearity is the variance inflation factor (VIF), which assesses how much the variance of an estimated regression coefficient increases if your predictors are correlated. If no factors are correlated, the VIFs will all be 1. If the VIF is equal to 1 there is no multicollinearity among factors, but if the VIF is greater than 1, the predictors may be moderately correlated, if multicollinearity is a problem in the model only if the VIF for a factor is near or above 5.

Collinearity diagnostics and multiple regression analysis were conducted to examine relationship between dependent variable and various predictors.

**Table 4. 9: Coefficients Table**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 6.207 | 1.131 | | 5.490 | .000 | | |
| | Age | .340 | .108 | .460 | 3.147 | .003 | .511 | 1.957 |
| | Highest Academic qualification | -.136 | .089 | -.243 | -1.530 | .134 | .431 | 2.318 |
| | Monthly income | .327 | .076 | .509 | 4.333 | .000 | .790 | 1.267 |
| | Perceived ease of use | -.213 | .087 | -.342 | -2.434 | .019 | .551 | 1.814 |
| | Cost Of Using | -.087 | .045 | -.251 | -1.936 | .060 | .650 | 1.539 |
| | Mode of advertisements | -.398 | .096 | -.758 | -4.167 | .000 | .330 | 3.031 |
| | Compatibility | -.266 | .108 | -.418 | -2.467 | .018 | .380 | 2.631 |
| | Trust | -.402 | .100 | -.621 | -4.004 | .000 | .453 | 2.206 |
| | Gender | .274 | .197 | .190 | 1.389 | .172 | .582 | 1.718 |

Source Field Data (2015)

The coefficients Table 4.9 summarizes the results on multicollinearity, under the column collinearity statistics the variable that have more than 5 or 10 VIF value show possibility of multicollinearity problem. But all variables remained with VIF values less than 5 that means there were no signs of multicollinearity problem, those variables were included to the model“Age with VIF=1.957”, “Highest Academic qualification VIF=2.318”, “Monthly income VIF=1.267”, “Perceived ease of useVIF=1.814”, “Cost Of UsingVIF=1.539”, “Mode of advertisements VIF=3.031” , “Compatibility VIF=2.631” , “Trust VIF=2.206” and “GenderVIF=1.718”.

**Table 4. 10: Anova Table**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 10.958 | 9 | 1.218 | 5.514 | .000[a] |
| | Residual | 9.273 | 42 | .221 | | |
| | **Total** | **20.231** | **51** | | | |

### 4.10 Test for Heteroscedasticity

This is the extent to which the data values for the dependent and independent variables have unequal variances (Saunders et al. 2009). For instance $V(\varepsilon_j) = \sigma^2$ for all j. That is, the variance of the error term is constant (Homoscedasticity). If the error terms do not have constant variance, they are said to be heteroscedasticity(Williams 2015). To test for heteroscedasticity, the White test was performed comparing $x^2$ calculated against chi-square tabulated

$$x^2(C \bullet i - squarecalculated) = R^2 \times N(Samplesize)$$

$$= 0.736 \times 75$$

$$= 55.2$$

$$x^2 tabulated(75, 0.05) = 96.22$$

Then $x^2(C \bullet i - squarecalculated) was$ compared to $x^2(tabulated)$and$x^2(C \bullet i - squarecalculated) < x^2(tabulated)$ suggesting absence of Heteroscedasticity.

### 4.11 Test for Autocorrelation

Autocorrelation refers to the violation of the linear regression model the covariance between the error terms is zero. The Durbin Watson diagnostic statistic was used to

test this assumption. From the model summary Table 4.8, the Durbin Watson statistic is given as 1.914. This is more that the lower critical limit value of the DW statistic (1.74) hence no significant residual autocorrelation is presumed.

### 4.12 Regression Conclusions

From the table 4.9 above the R square is 0.542. This means that 54.2% of variation is explained by model, this leaves out 45.8% explained by other factors not in the model developed in this study. Out of nine factors analyzed in the model only six independent variables were found to be statistically significant.The following predictive variables (independent variables) were significant age (p-value=0.003), Monthly income (p-value=0.00), perceived ease of use (p-value=0.019), mode of advertisements (p-value=0.00), compatibility (p-value=0.018) and trust (p-value=0.00) while Highest academic qualification (p-value=0.134), cost of using (p-value=0.06) and gender (p-value=0.172)were found to be insignificant. The criteria used was if p-value (sig.) <0.05 then the coefficient is statistically significant from zero.

### 4.13 Chapter Summary

The overriding purpose of this chapter was to show and present the way data were collected and analyzed. To accomplish that goal all procedures that were pointed out in chapter 3 were used, data were analyzed using linear multiple regression analysis. Most important assumptions of the model were tested such asMulticollinearity, heteroscedasticity, autocorrelation and Linearity and finally multiple regression analysis was conducted. Few important independent variables were selected to test for multiple regression analysis and results were shown using tables.

# CHAPTER FIVE

# DISCUSSION, CONCLUSION AND RECOMMENDATIONS

## 5.1 Overview

This chapter provides discussion and analysis of the study`s contribution, managerial implications, and suggestions for further research. The primary objective of the study was to find out factors affecting consumer acceptance of Mobile banking in commercial banks in Tanzania. A case study of Akiba Commercial bank plc. The study was also guided by the following additional objectives to identify factors of Mobile banking, to examine how demographic characteristics affect Mobile banking and to examine the relationship between consumer acceptance and mobile banking

## 5.2 Discussion of the Findings

As suspected, Academic qualification, complexity, mode of advertisement, trust, system quality, perceived usefulness, triability, cost of using, observability and social influence were found to significantly influence the adoption of Mobile banking, however, it was also found out that Monthly income was not so much a factor that many Akiba commercial bank PLC were concerned about in their decision on adoption of mobile banking.

From table 4.9 the coefficient and significant level result for the variable age was (b=0.340, p=0.003) this shows that the level of significance $p<0.05$ which is statistically significant to mobile banking acceptance. this finding is consistent to other previous studies such as (Nyeko et al. 2014) who pointed out that age is one of the contributing factors that influence mobile banking.And also mobile banking

technology should pay attention to the age of population due to changing needs of the young population mobile banking adoption of customers, the finding was also consistent with (Nasser Al-Suqri 2014) who pointed out that older participants tended to use electronic books less and to prefer paper copies of books. The findings was also consistent with (Aud & Agora 2003) who pointed out that the older customers are more likely to adopt which was not in line with prior empirical research on electronic banking, however rogers suggestedthat earlier adopters are no different from later adopters in age.

From the Table 4.9 Gender was found to be statistically insignificant with values (b=0.274, p=0.172) that is it has no relation to consumer acceptance of mobile banking the finding is inconsistent with many previous studies such as (Ghazizadeh 2012), (Carlsson et al. 2005), (Hosseini 2015), (Kadušić et al. 2011). But according to (Carlsson et al. 2005) pointed out that there are significant differences between males and females in the use of many services that men are more active users of mobile services than women but (Kadušić et al. 2011) added that females are found to have a lower attitude towards adoption and sustained usage of mobile banking services than males .(Hosseini 2015) pointed out that gender factor was effective factor among demographic characteristics, while marital status was not an important factor for using these services. therefore based on the discussion above then emphasis should put more to females to encourage them to use mobile banking compared to males

According to Rogers, early adopters are the second largest group of the individuals mainly youth with high education and income from the Table 4.8 (b=-0.136,

p=0.134) and (b=0.327, p=0.00) respectively. Academic qualification was found to be statistically insignificant while income was significant but according to (Hosseini 2015) increases in income and education tend to be positively related to the adoption of an innovation which is totally inconsistent when it comes to education and consistent only to income in this study. Findings of education was inconsistent to (Nyeko et al. 2014) and (Aud & Agora 2003) that is the higher the level of education , the higher the adoption of mobile banking. According to (Mohammadi 2015) whose findings were consistent with this study pointed out that the cost of mobile services remains one of the biggest barriers for low-income sectors and individuals to adopt mobile banking.

Based on qualitative research opinion leaders were observed to have impact on the acceptance of mobile banking. Most of opinion leaders in the community have strong voice and convincing power in the society so using them to market the service to the society could be more helpful and alsowas observed to be a significant factor in influencing changes to adopt to new life style and technology therefore opinion leaders if they are well informed about the service the more likely the mobile banking service will be accepted. Thus,the hypothesis was accepted. (Ishengoma 2011) from Tanzania recent adopters of the mobile phone as those who first acquired a mobile phone in the past year and revealed that this group includes many more lower-income individuals than those who adopted mobile phones earlier(between two and five years ago).

*H*: the more opinion leaders are informed about the service the more likely the mobile banking service will be accepted.

From the Table 4.9 the coefficient of perceived ease of use (b=-0.213., p>0.019) where by b and p stand for coefficient and level significance respectively which indicates that the variable was found to be statistically significant.(Lule 2012), (Wessels & Drennan 2010)and (Shroff et al. 2011)and others added that perceived ease of use has a significant impact to mobile banking, this study is consistent with previous studies. Thereforethe hypothesis was accepted.

*H:* the more perceived ease of use the technology, the more likely it will be adopted

The hypothesis was accepted and was consistent with most of the earlier studies carried out.

The study also finds that complexity as one among factors that do not affect consumer acceptance of mobile banking, this is indicated from the table 4.6. This finding was consistent by previous studies (Aud & Agora 2003) the perception of the complexity involved in conducting a financial transaction via a mobile channel can be argued to be inversely related to the consumer's experience with technology in general according to (Ghazizadeh 2012)whose suggestions was inconsistent to this study's findings who pointed out that if using a new innovation requires a lot effort from the individual , then it is more likely that the innovation will be rejected because complexity is the extent to which consumers perceive a new innovation as easy to understand or use for consumers without previous computer experience therefore acceptance of these innovations may be thwarted (Hosseini 2015) and users always would be concerned with the effort required to use that application and the complexity of the process involved (Razzaq 2014) therefore complexity according to previous studies seemed to have effect but according to this study's findings

complexity was found to have no effect to users and therefore this can be concluded to the hypothesis below.

*H:* the less complex the mobile banking service is the wider acceptance it will receive.

Form Table 4.6This hypothesis was not accepted as a significant factor that influence consumer acceptance of mobile banking, based on this study finding most users had experience to use other mobile banking service provided by telecom companies therefore it was not difficult to switch to ACB mobile banking but according to (Nayak et al. 2014) suggested that complexity must be reduced in order to increase the number of adopters in mobile banking because it has a negative relation to the acceptance of mobile banking service.

Form the Table 4.9 compatibility variable with (b=-0.266, p=0.018) that is $p<0.05$ was statistically significant. This is consistent with previous studies such as (Wessels & Drennan 2010) pointed out that there is a negative relationship in the model between compatibility and intention to use M-banking(Jeong & Yoon 2013) and also consistent to (Kazemi et al. 2013). The results indicated that certain attribute of mobile banking innovation drive usage or explain consumer behavior(Aud & Agora 2003)compatibility has a negative impact on attitude toward m-banking(Kazemi et al. 2013).

*H:* the more compatible the mobile banking service is the more likely to be accepted.

The compatibility of the mobile banking service was accepted and was inconsistent with other earlier studies.

*H:*the more trustworthy the mobile banking service is the more likely it will be adopted.

The hypothesis was accepted this is because the beta value b= -0.402, and p=0.00 the findings shows that there is a relationship between trust and the likelihood of mobile banking acceptance this is because customers' trust in service providers has fallen behind the level of mobile service provided and when service providers have users' trust, users are generally satisfied with their service(Chung & Kwon 2009) and when trust is low consumers do not show high satisfaction in the service provided and according to (Luo et al. 2010) trust is the extent to which a person believes that using mobile banking will have no security or privacy threats then the formation of consumer' initial trust in mobile banking.

Some studies confirmed that initial trust is significant determinant of mobile banking this is consistent with previous studies such as (Kazemi et al. 2013) they pointed out that customers will adopt mobile banking services when the mobile banking service providers(both the banks and mobile network provider) are perceived to be trustworthy, therefore trust is very important factor to the success of mobile banking therefore companies needs to invest in systems that assure reliable and secure data transmission, prohibiting bad system performance as well as misuse/abuse of personal information(Hosseini 2015).

From table 4.9, the perceived ease of use was found to be statistically significant with p-value=0.019 this indicates that mobile banking service is affected by the way consumers perceive the easiness of the service, this finding is consistent with most of previous studies such as(Lule 2012) who said that perceived ease of use can predict

the usage intention of M-banking and (Nasser Al-Suqri 2014) who suggested that perceived ease of use is significantly associated with usage behavior and it has a significant influence on perceived usefulness and (Shroff et al. 2011) pointed out that if the service is nearly free of mental effort users may have a favorable attitude towards the usefulness of the system. Others who are consistent with study said for respondents who do not use m-banking, perceived ease of use is not a significant factor towards mobile banking adoption while those who are currently using mobile banking has a positive effect on their behavioral intention(Ghazizadeh 2012) and (Kazemi et al. 2013).

Mode advertisementswas found to be one of the key influencing factors of consumer acceptance of mobile banking according to this study with p-value=0.000 from table 4.9, this finding was consistent with (Z-pesa 2014)founded out that most of users of mobile banking had no comprehensive information on the service therefore it was recommended that more efforts should be put on advertisements of the service so that the service should be well communicated to the public and also best means should employed to attract more consumers to use mobile banking such as internet advertisements(Mohammadi 2015).

From table 4.9 cost of using mobile banking service was found to be statistically insignificant with p-value=0.06 this is consistent with (Ishengoma 2011) who said that Tanzania have more low-income users that wealthy one’s who uses mobile banking technology provided by telecom company, and this technology has substituted expensive and wasteful travel as well as long lines(Bakker et al. 2013)

and what really makes them inexpensive compared to conventional retail banking services is that they are not backed by bank branches but by an agent network that clients interface with to deposit or withdrawal money(Söderberg 2008) and also this is important to financial institutions because they have had difficulty providing services through traditional channels to poor clients, particularly since branches are expensive to maintain(Donner 2007).

## 5.3 Analysis of the Contribution

Since most of financial institutions nowadays implement mobile banking services in Tanzania it is of fundamental importance that these institutions identify factors that influence consumer acceptance of mobile banking and use of these services this study was a continuum to the stream of studies related to user technology acceptance in general, mostly important in mobile banking but this study was specifically for Tanzanian financial institutions, though the use of a single case study may be seen as a limitations\ to the research, it nonetheless proves that Tanzanian banking customers are not different from those in other countries where such studies have been conducted.

The factors analyzed were found to explain a significant 94.7% and 21% of the variance of dependent variable (My attitude towards the adoption (or continuing use) of ACB mobile is positive).The study found Gender, academic qualification, Mode of advertisement, trust/security/risk, system quality, perceived usefulness, triability, cost of using, observability and social influence to be significant factors affecting consumer acceptance of mobile banking in akiba commercial bank plc.

## 5.4 Managerial Implications

The model used, its stability gives a good foundation for making suggestions that are important for bank management to take into consideration when making investments in mobile banking technology. The findings could improve mobile banking adoption in Akiba commercial bank, as well as in other banking institutions since outcomes assist to understand customer needs and activities that can be initiated to improve the usage of mobile banking service.

This would finally lead to better performance of the bank financially. Age and Monthly income were found to be the most significant factors that influence adoption of mobile banking. A keystone for usefulness perception is the knowledge customers have of a system, hence it is important to educate customers on benefits for example on issues of convenience, cost and time savings that would happen when the decided to use mobile banking as a channel for banking services. Also on the issue of system quality financial institutions should make sure that mobile banking service is available all the time that is time convenience.

Bankers should consider age of their customers when providing this service, since age was also found to be a significant factor influencing consumer acceptance of mobile bankingAnd also it has been found that social influence was a significant factor influencing consumer acceptance of mobile banking therefore financial institutions should take it as opportunity to use.Most influencing persons in the society to market this service on its usefulness on behalf of the bank, these can be opinion leaders in the society.Another issue that was found to be very important is

the way these financial institutions advertise their servicebecause the study found out that mode of advertisements to be a great deal when it comes to consumer acceptance of mobile banking. Banks and other financial institutions should try to look into it to find better ways of practicing advertisements that would be efficient, goal oriented and customer centric.Another managerial implication has to do with type of services provided on the mobile banking platform, the study revealed that Automated SMS alert about transactions option is the most preferred service followed by Automated SMS alert about loans option of which the bank does not currently offer, and it would be important to have the same factored in to increase consumer acceptance rate of mobile banking.

## 5.5 Policy Implications

Mobile banking platform involves several players and stakeholders who are involved with different roles and with diverse benefits from the whole mobile banking value chain (Masamila 2014)because of this strong policy for mobile banking is required, therefore, the study has provided a better understanding of factors that affect consumer acceptance of mobile banking together with their statistics, since the study focused mainly on factors that affect consumer acceptance of mobile banking then policy makers have benefited from the findings as they will use themto improve current policy to support financial institutions that operate mobile banking in Tanzania.

## 5.6 Conclusion

The main objective of this study was to identify the factors affecting consumer acceptance of mobile bankingby retail bank customers in akiba commercial bank.

The study was able to identify factors that affect consumer acceptance of mobile banking which are age, monthly income, and perceived ease of use, mode of advertisements, compatibility and trust. But monthly income and age as well as social influence turned out to be most important factors influencing consumer acceptance of mobile banking. Highest academic qualification and gender was however, not a significant factor among retail bank customers in akiba commercial bank plc.

## 5.7 Recommendations for Future Research

The observation that opinion leaders had positive effect to consumer acceptance of mobile banking has a number of implications for banks: Customers will likely to adopt new technology through opinion leaders therefore banks should deal with opinion leaders to increase awareness among customers and prospective customers. The results show that cost of using mobile banking service had negative effects on consumer acceptance of mobile banking, this has a number of implications for banks: it is important for banks and service providers to establish running cost that are affordable to customers this will retain current customers and attract prospective ones.

Banks should also improve the mode of advertisements that reach most of their customers and that would have a positive impact to the overall performance of mobile banking.The researcher recommends that another study should be conducted on retail bank customers with a larger sample from the larger population that cut across the entire country of Tanzanian banking population and the main problem be on the issue of consumer satisfactions of mobile banking system in Tanzania.

The study can also be conducted in the context of the case bank that is Akiba commercial bank Plc sincethe bank is in the medium banks category in Tanzania and its fast growing increasing its coverage network around the country this will open the window to further opportunities. These findings will help to improve mobile banking service as the bank finds its way to other regions to increase its coverage. And also banks should strive to educate their customers on the available technological advances and how to use them.

Last but not least, future study may be conducted by further extending area of study to include other industries such as telecommunication industries and comparisons can then be drawn between the two industries on the issue of service satisfaction of mobile banking that is banking and telecommunication industries in terms of the factors influencing their adoption or acceptance decision, satisfaction levels and the criteria for choosing the best way to do saving since telecommunication industries nowadays have extended their mobile banking service by providing loans and savings opportunity that includes interests

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# APPENDICES

## Appendix I: Questionnaire for Bank Customers

### Survey Questionnaire

**Directions:**

The questionnaire has 3 sections: A, B and C. Please respond to all questions in each section to the best of your knowledge and as per the instructions provided.

Thank you in advance for your time.

**Section A: Demographic information:**

Instructions: For this section, please put 'X' in the appropriate box.

1. Age

Below 25 years ( ) 25- 30 years ( )

31 – 35 years ( ) 36 – 40 years

41 – 45 years ( ) 46 years and above

2. Gender

Male ( ) Female ( )

3. Highest Academic qualification

Primary ( ) Secondary ( )

Diploma ( ) Bachelor's Degree ( )

Master's degree ( ) Doctor of Philosophy (Phd) ( )

4. Monthly income

Less than Tshs 200,000 ( ) Tshs 200,000- 400,000 ( )

Tshs 400,000- 450,000 ( ) Tshs 450,000- 500,000 ( )

Tshs 500,000 and above ( )

**Section B:**

1. If you do not have ACB mobile banking account, which are the main reasons you have not signed up for it? (You can tick more than 1)

I am not aware of the service ( ) I am scared of fraud ( )

I don't know how to set it up ( ) I don't need to interact ( )

I like to deal with a real person when I do ( )

The bank has many conditions ( )

Other……..

2. Which are services would like to access using ACB mobile banking?

Cheque book request ( ) Standing instructions option ( )

Loan application ( ) Automated SMS alert about transactions ( )

Bank cheque request ( ) Bill payment option ( )

Trade Finance options ( ) Automated SMS alert about loans ( )

Other …….

**Section C**

This section aims at finding out your opinion about ACB Mobile banking service, Please Tick a number from 1 to 5 that best represents your level of agreement with the statement.

1= strongly disagree 4= agree

2= disagree5= strongly agree

3= undecided

| | **Strongly Disagree** | **Disagree** | **Undecided** | **Agree** | **Strongly agree** |
|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** |
| In my view the use of technology is useful for banking activities | | | | | |
| In your opinion , do you think mobile banking technology is complicated and difficult to use | | | | | |
| The mode of advertisement in marketing ACB mobile banking product affects my use of technology | | | | | |
| Fear of theft through fraud, hacking of my password and minimal security control of ACB mobile services affects my use of it | | | | | |
| ACB mobile banking is convenient since I transact any time I want | | | | | |
| It will be easy for me to use ACB mobile services since I know how to use ATM | | | | | |
| In my opinion the use of | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| ACB mobile services are economical | | | | | |
| I think transaction fee is expensive to use | | | | | |
| I heard / saw others using ACB mobile that is why I decided to use it | | | | | |
| My attitude towards the adoption ( or continuing use ) of ACB mobile is positive | | | | | |
| Using mobile banking makes/would make it easier for me to conduct ACB mobile transactions | | | | | |
| Overall, I find/would find ACB mobile easy to use | | | | | |
| ACB mobile is/would be a convenient way to manage my finances | | | | | |
| I believe that the services provided by banks are of good quality | | | | | |
| I think ACB mobile service is not compatible with my current cell phone | | | | | |